Case Study 1

Glow and Go Bot (EY10564)

This case study, written by **Anita Baglyosné Németh**, looks at how children **aged from 2.5 – 10 years** used Glow and Go Bot during a **summer church camp in Demecser, Hungary**. It highlights how the robot helped children develop hands-on exploration, problem-solving skills and confidence.

Background and Purpose

We tested the Glow & Go Bot during a summer camp, with children aged between 2.5 and 10 years. The testing was carried out and I was very excited to see how the different age groups would react to it.

My aim was for the children to discover cause-and-effect relationships in a playful way, to practice directions and spatial orientation, and to take their first steps into the world of programming. In addition, it was important for me that their attention and concentration improved, while also gaining self-confidence and a sense of achievement.

How We Used the Glow & Go Bot

The children immediately gave the robot a name: “Teki.” From the very first moment, they were excited when they saw it – even before they knew what it was for. They immediately started pressing the buttons, even when the robot was switched off. At first, I allowed them to hold and touch it, so that they could explore not only with their eyes but also with their hands. Then I explained what was going to happen, and when I switched it on, the glowing lights were an instant success.

We started the demonstration in Mode 3. Here, the children could immediately see which colour lights up when they pressed a direction button (purple, blue, yellow, green). This provided a very clear and engaging experience.
Next, we moved to Mode 1, where the children discovered that pressing one button resulted in a single step-by-step reaction.
Finally, we closed with Mode 2, which I found the most complex: the older children were already able to give multiple instructions in sequence, creating their own “mini-programs.”

During the camp, we tried all three modes, and each age group found the right level of challenge.

Advice for Other Educators

The Glow & Go Bot is an excellent tool for introducing children to robotics from the very basics. There was a 9-year-old girl who had never seen a Bee-Bot before, and Glow & Go proved to be the perfect introduction for her. I would therefore recommend it not only for preschoolers but also for young schoolchildren who have not yet encountered programmable robots. My advice is to introduce it gradually – first through free exploration, then with simple tasks, and finally by connecting it to thematic stories. As it is an indoor robot, the activities were carried our inside.

Impact and Results

The Glow & Go Bot immediately captured the children's attention. The lights, colours and sounds motivated them, and they eagerly joined the activities.

Skills Developed:

- Attention and concentration
- Cause-and-effect thinking
- Spatial orientation and direction recognition
- Problem-solving (planning multiple steps)
- Social skills (patience, celebrating each other's success)

Community Impact

The use of Glow & Go also created a sense of community. The children paid attention to each other, waited patiently for their turn, and celebrated successes together. The younger ones experienced it as discovery and play, while the older ones deliberately tried to combine multiple steps. The absolute favourite was the robot's dance: at the end of every task, they asked for "Teki" to dance. This served both as a reward and as a joyful conclusion.

Additional Ideas - 10 Creative Ideas for Using the Glow & Go Bot

1. Colour discovery adventure – children connect colours to the robot's lights (purple, blue, yellow, green).
2. "Where should Teki go?" – Direction game to practice left, right, forward, backward in a playful way.
3. Teki tells a story – linking pictures and storytelling.
4. Robot dance as a reward at the end of every activity.
5. Counting with Teki – counting steps, strengthening early maths skills.
6. Build a track! – children create their own paths and test them with the robot.
7. Teki's orchestra – accompanying movement with sounds and rhythm.
8. Treasure hunt – the robot helps to find hidden objects or pictures.
9. "Who gives the right command?" challenge – collaborative problem-solving.
10. Relaxation with Teki – light show and dance at the end as a calm-down.

Three Words that Best Describe Glow & Go Bot:

- Exciting
- Playful
- Motivating

Summary Thought

The Glow & Go Bot is a wonderful opportunity for both younger and older children to take their first steps into programming. Its lights, sounds, and movements provide instant success and enjoyment, while offering the perfect transition to the Bee-Bot.

Children's Quotes

"Look, it lights up!"

"I want to control Teki now!"

"Make it dance again, that's my favourite!"

"Teki always knows where to go!"

With thanks to Anita Baglyosné Németh for writing and sharing this case study with us.

Case Study 2

Glow and Go Bot (EY10564)

The staff and children at **Brampton Primary School** enjoyed exploring and learning with Glow and Go Bot. Read about how they have used Glow and Go Bot and the impact they are seeing on the children's learning.

"The bright lights and the design of the robot mean that it is a very motivating resource – everyone is keen to have a turn!"

Why We Chose Glow and Go Bot?

We are an Early Years Unit based in a fairly large primary school in Chesterfield, Derbyshire. The Glow and Go Bot was purchased to support the use of positional and directional language in addition to giving children an early taste of programming in preparation for the computing curriculum starting in Year 1. We also felt that the Glow and Go Bot would be a really motivating resource to support the development of key skills in other curriculum areas too.

Ways We Use Glow and Go Bot

Initially, we encouraged the children to explore the Glow and Go Bot on the dance setting. We turned out the classroom lights and the children enjoyed watching the lights, moving to the music, and dancing along! This was particularly popular with our children with additional needs – especially those that are visually sensory seeking. At our school, we also have an enhanced resource unit for children with Autism. The robot is used within the sensory den and really helps to meet the sensory needs of some of our children.

Within the Early Years classroom, we also experimented with the movement setting. This setting works very much like a Bee-Bot, but the controls are easier for young children to understand. Children can program the robot to move forward, backward, left and right. The Glow and Go Bot doesn't have an option to rotate which is something that our children in EYFS have found difficult with the Bee-Bot in the past.

The children within the setting were quickly able to program the Glow and Go Bot to travel in a sequence of movements to a set space. We found that our alphabet floor rug was a perfect place for the children to direct the robot as they could choose an alphabet square to aim for before programming the Glow and Go Bot accordingly. The programming of the Glow and Go Bot was a really useful way for children to develop their use of positional and directional language as well as encouraging teamwork skills.

We then extended this oral use of language and started to write a sequence of instructions for the Glow and Go Bot using directional arrows.

Setting three was a particular hit with the children! This setting allows children to create sequences of music. The Glow and Go Bot plays a different tune depending on the coloured button that has been pressed. Children can press a sequence of buttons to create their own piece of music. Each button also has a shape printed onto it. This allows us to record the sequence of music onto a page so that we can play it again, as well as supporting shape recognition. Completing this activity is a great way to develop early music composition skills as well as work on repeating patterns.

We enjoy using the Glow and Go Bot as a motivating resource within lots of different curriculum areas. Some of the ways in which we have used the resource include moving the Glow and Go Bot to land on chalk numbers or shapes in the playground, creating treasure maps for the robot, and building tracks for the robot to navigate using a range of different construction sets - the possibilities are endless.

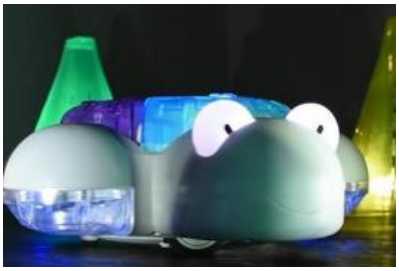
The Impact of Glow and Go Bot on Learning

The Glow and Go Bot is a great way for children to develop their problem-solving skills as well as critical thinking and perseverance! In addition to this, it is perfect for developing mathematical language, attention and listening, as well as early programming and music composition skills. Even after engaging with the Glow and Go Bot for a short time, we could see a difference in the children's ability to program and problem-solve in order to achieve a desired outcome. The bright lights and the design of the robot mean that it is a very motivating resource – everyone is keen to have a turn! As such, this makes it a great tool to engage children in other areas of learning that they might not normally choose to take part in. This was particularly the case with mark-making. The Glow and Go Bot was great for giving mark-making activities a real purpose!

Many thanks to the staff at Brampton Primary School for sharing their thoughts about Glow and Go Bot with us.

Case Study 3

Glow and Go Bot (EY10564)

The staff and **nursery children** at **Windale Primary School** were Terrific Testers and trialled Glow and Go Bot. Read this case study to find out how they introduced Glow and Go Bot into their setting and what the children learned.	

Using Glow and Go Bot

Having introduced the Glow and Go Bot to the children previously, we set the children a challenge to see if they could direct the robot towards a given shape on our circle carpet mat. The children had to estimate how many times they needed to press the correct direction button to get it to land on the named shape. The activity was done in small groups of 3 to 4 children, but more asked to join in.

Areas of Learning and Skills Developed

We focused primarily on communication and language for key vocabulary, PSED for turn-taking and sharing, but also Maths for the use of directional language e.g., forward, backward, left and right. We also introduced the Glow and Go Bot to some of our children with SEND and they explored it across a period of time.

Our Observations

Having modelled the activity for each group of children, they then took it in turns to program the Glow and Go Bot to travel to a given shape on the carpet. The children were able to start to use directional language - forward, sideways, and backward, left and right. Some children engaged with the activity quickly and were able to make sensible estimations as to how many times the corresponding button needed to be pressed in order to get it to the desired carpet shape. Some other children preferred to just make the Glow and Go Bot move one space at a time, in a more controlled way, to ensure they got it right.

Child A - “When you press the arrow it goes that way”, “I want it to go backwards”, “Press the star and it moves.”

Child B - “ I want it to go to the purple circle, 3 times forward.”

Other children were able to demonstrate their counting skills but counting out loud the number of times they pressed the button and then again to count the number of spaces the Glow and Go Bot moved. With our SEND children, they initially interacted with the Glow and Go Bot on a 1:1 basis with an adult. We modelled the ‘my turn’, ‘your turn’ vocabulary to encourage turn-taking. Over time, one child was more able to wait her turn, so we introduced her to taking turns in a small group of 3 children.

Again, using the 'child's turn, then your turn' model, she was more patient when waiting her turn. This linked really well to her EHCP targets for interacting with others during a similar activity.

Through exploring the Glow and Go Bot independently, the child also worked out how to make the Glow and Go Bot dance and responded by dancing along to the music. The child also tolerated another child coming and dancing alongside her and there was evidence of eye contact with the other child. One of our other children with SEND really enjoyed the setting that just played the sounds and lit up. He was able to press the buttons independently to make the sounds he liked.

Overall, the Glow and Go Bot has been enjoyed by all children but has had the biggest impact with our SEND children and our older, higher-ability children (moving onto early programming skills).

Other Ways We Have Used Glow and Go Bot

- Early Programming Skills – cause and effect
- Turning lights off and following it in the dark
- Dancing with the Glow and Go Bot – copying its moves
- Putting an object in the middle of the circle- who can get the Glow and Go Bot closest to the object?
- Playing a game of 'find the sound/colour'- can the children remember which button made a certain sound/light up a certain colour?
- Programming a specific planned route- mini obstacle course but having areas that have to be avoided e.g. a swamp
- Designing a home for the Bot.

Many thanks to the staff and Nursery children at Windale Primary School (United Learning) for sharing their thoughts with us.

Case Study 4

Glow and Go Bot (EY10564)

Children at **Think for the Future (TFTF) Tots Nursery** love learning with the Glow and Go Bot. When reflecting on how Glow and Go Bot has been used in their setting, **Ellie Fox, Nursery Director**, has broken this down into intent, implementation and impact.	

Intent Behind Using Glow and Go Bot
In line with our commitment to incorporating technology into the curriculum, TFTF Tots decided to introduce the Early Technology Light-Up Glow and Go Bot into the setting to enhance the children's understanding of technology. This case study explores the implementation of the product and its impact on the children's learning outcomes.

Implementation of Glow and Go Bot
The nursery staff at TFTF Tots carefully planned the introduction of the Light-Up Glow and Go Bot to ensure a smooth integration into the curriculum. The resource was initially introduced in a slow and gradual manner, allowing the children to become familiar with its features and functionalities. The staff started by demonstrating the different modes of the bot, such as its ability to move forward, backward, left and right. To make the learning experience more engaging, the staff incorporated various props and activities. For instance, they used tape to create routes for the bot to follow, encouraging the children to understand and follow directions. This activity not only enhanced the children's understanding of direction vocabulary but also improved their critical thinking and problem-solving skills

Impact of the Glow and Go Bot
The introduction of the Light-Up Glow and Go Bot had a significant impact on the children's learning outcomes at TFTF Tots. The resource facilitated the development of technology understanding among the children as they were able to explore and interact with a technological device in a safe and controlled environment. The use of the bot also had a positive impact on the children's music and movement skills. The nursery staff incorporated music into the activities, encouraging the children to move and dance along with the robot. This not only made the learning experience enjoyable but also helped the children develop their coordination and rhythm.

Furthermore, the Light-Up Glow and Go Bot aided in colour identification. The bot's vibrant lights and different coloured buttons allowed the children to associate colours with specific actions or functions. This activity helped improve their colour recognition skills.

Moreover, the introduction of the Glow and Go Bot encouraged critical thinking and problem-solving skills among the children. As they followed the routes created with coloured tape, they had to analyse and strategise their movements to ensure the bot followed the correct path. This activity promoted logical reasoning and problem-solving abilities among the children.

In Conclusion

The implementation of the Early Technology Light-Up Glow and Go Bot at TFTF Tots proved to be highly beneficial in teaching technology to young children. The slow introduction, coupled with the use of props and activities, enhanced the children's understanding of technology, direction vocabulary, music and movement, colour identification, critical thinking, and problem-solving skills.

Many thanks to Ellie Fox, Nursery Director at Think for the Future Tots Nursery for sharing her thoughts with us.

Case Study 5

Glow and Go Bot (EY10564)

Staff at **Woodlands Nursery and Forest School** have kindly shared their learning experiences with Glow and Go Bot with us. Read on to find out more.



Incorporating Screenless Technology into the Nursery

We have been experimenting with the different ways we can incorporate technology into all ages within the nursery without the typical use of a screen. We recognise that children are being exposed to more and more technology at the moment and we are keen to support with this in a way that supports socialisation, communication and language.

Introducing Glow and Go Bot

When we introduced the Glow and Go Bot, we were eager to start at the oldest of ages and work down the rooms. We also offered this as an unboxing reveal activity to the out of school club which included our reception and year one children. The group used the picture card that comes with the robot to work together, and problem solve how to use it and what different features it had. They tested their ideas, reflected on what worked well and repeated. The group then challenged each other to create obstacle courses.

Glow and Go Meets our Three to Four-Year-Olds (Preschool Room)

In the preschool room, our 3 and 4-year-olds were inspired by the turtle-like appearance and took a more nurturing approach to the exploration. Affectionately named by them as ‘Tony the turtle’, the preschoolers enjoyed making ‘him’ a home from construction blocks and discovering that he becomes the perfect ‘dance buddy’ with music and lights. The children started by observing the staff press the buttons and listening to the different sounds made. The children then had a go at making the robot move by themselves, resulting in ‘Tony’ moving forwards and backward. Once armed with the tools on how to operate the robot, the preschoolers were then encouraged to explore freely which resulted in investigating further to discover it can move in different directions, light up, play music, and dance! As the controls are as simple as pressing each of the large buttons, this proved to be a popular child-led activity with the robot being robust enough for us to leave it in their control. The group was able to have hands-on experiences to discover the cause and effect of the buttons whilst building upon their sequencing knowledge.

Early group explorations involved guessing how many times they would need to press the forward button for ‘Tony’ to reach his house that had been created with blocks earlier that morning. The children documented their estimates on paper and then put their ideas to the

test. Collaboratively, the group continued to move the robot around the classroom to estimate how many moves were needed to reach certain destinations. One little boy gathered a clipboard and pen, trying to create his own representation of each button so that he could create 'instructions' for his friends to copy.

Glow and Go Bot Meets our Toddlers

Our staff have incorporated technology into their music and movement sessions by using ipads to show dance moves or play a particular song. However, we have been reducing screen time and have introduced them to the Glow and Go Bot. Once in dance mode, the toddlers were able to stand in a circle with the robot in the centre, lighting up, dancing, and playing music. They were then encouraged to take turns, press the buttons, and respond by copying or reacting.

Go and Go Bot Meets our Babies (From 10 Months)

In our baby rooms, the robot has been offered out on dance mode, where the children were captured by the flashing lights and sound as it moved around. Some babies of around 10 months old reached out to feel the different textures on each button with their hands, mouths and feet. As it moved across the floor, some of our more mobile babies crawled after it, watching how it impacted the light and shadows around the room too. As they reached the robot, they would tap the large buttons and await a response.

A Brilliant Addition with Many Learning Outcomes for Different Age Groups

Light Up Glow and Go Bot has been a brilliant addition to each of the rooms and for children's development, particularly in:

Physical Development - fine motor skills as the children use their fingers to operate buttons (and write instructions) and gross motor skills when squatting and balancing to operate the robot.

Communication and Language- learning from back-and-forth interactions, questioning each other, and learning to listen to one another along with the sounds the robot makes.

PSED – building upon relationships during teamwork, developing confidence to speak about own ideas, finding solutions to conflicting ideas.

Mathematics – counting the number of times the buttons have been pressed, estimating, using mathematical language, discussing routes, and using words for positioning and direction.

Understanding the World – understanding that actions have an effect, exploring how things work.

Expressive Arts and Design – responding to sounds emotionally and physically, using imagination e.g. when building a house for robot or creating a course for it to move around.

In Conclusion Overall, we have been impressed with the ability to meet the 'fix' for light and sound exploration without the need for a screen. This has covered more areas of the EYFS and characteristics of effective learning than a tablet would offer.

Many thanks to the Nursery Manager at Woodlands Nursery and Forest School for sharing her thoughts with us.